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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|-------------------------|---------------------|------------------|
| 09/894,394 | 06/28/2001 | Frank V. Peschel-Gallee | MS174295.1 | 6426 |

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AMIN & TUROCY, LLP
24TH FLOOR, NATIONAL CITY CENTER
1900 EAST NINTH STREET
CLEVELAND, OH 44114

EXAMINER

GODDARD, BRIAN D

ART UNIT PAPER NUMBER

2171

DATE MAILED: 09/15/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|--------------------------------------|--|--|
| Office Action Summary | Application No. 09/894,394 | Applicant(s) PESCHEL-GALLEE ET AL. | |
| | Examiner Brian Goddard | Art Unit 2171 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 January 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-28 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 June 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
 If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☐ All b) ☐ Some * c) ☐ None of:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
 * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
 a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>2</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Objections

1. Claim 26 is objected to because of the following informalities: A word appears to be missing in the phrase "hoisting a marker from a associated with the caller" between the first and second lines of the claim. From the language of parallel claims, the examiner believes the word "loop" should be inserted between the second "a" and "associated" in this phrase. Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-2, 9-11, 14, 20-21, 24-25 and 28 are rejected under 35 U.S.C. 102(b) as being anticipated by the article entitled "Lightweight Remote Procedure Call" by Bershad et al.

Referring to claim 1, Bershad discloses a system that facilitates communicating between managed and unmanaged code as claimed. See pages 44-51 for the details of this disclosure. In particular, Bershad teaches "a system that facilitates communicating between managed and unmanaged code [cross-domain procedure calls], comprising:

a first component [local procedure, object, or code segment in its protected domain (termed 'client')] that is one of the managed [in its protected domain] and unmanaged code; and

a caller [See sections 3.1 - 3.2] associated with the first component, the caller invoking [See section 3.2] an object related to a second component [remote procedure, object, or code segment outside of the first component's protected domain (termed 'server')], the second component being one of the managed and unmanaged code [outside of the first component's protected domain], the caller including an in-lined stub [See sections 3.3 & 3.5] that facilitates communications between the objects" as claimed.

Referring to claim 2, Bershad discloses the system for facilitating communication between managed and unmanaged code as claimed. See sections 3.3 and 3.5 for the details of this disclosure. Bershad teaches the system of claim 1, as above, "the in-lined stub including a call and return pair [See second paragraph of section 3.3] to facilitate communications between the objects" as claimed.

Referring to claim 9, Bershad discloses the system for facilitating communication between managed and unmanaged code as claimed. See sections 3.2 – 3.5 for the details of this disclosure. In particular, Bershad's caller further comprises "calling convention code [Modula2+ calling convention code] to...organize arguments and an execution stack [See sections 3.2-3.3 and 3.5] according to the convention of the unmanaged code" as claimed.

Referring to claim 10, Bershad discloses the system for facilitating communication between managed and unmanaged code as claimed. See section 3.2 for the details of this disclosure. Bershad teaches the system of claim 9, as above, "the calling convention code [Modula2+] utilized to interpret one or more return values [See page 46] from the unmanaged code" as claimed.

Referring to claim 11, Bershad discloses the system for facilitating communication between managed and unmanaged code as claimed. See section 3.3 for the details of this disclosure. In particular, Bershad teaches the system of claim 1, as above, "the caller including at least one of an in-lined marshalling code [See the final paragraph of section 3.3] and an external marshalling code to transfer data between the objects" as claimed.

Claim 14 is rejected on the same basis as claim 2. See the discussions regarding claims 1-2 above for the details of this disclosure.

Claims 20 and 21 are rejected on the same basis as claims 9 and 11 respectively, in light of the basis for claim 14 above. See the discussions regarding claims 1-2, 9 and 11 above for the details of this disclosure.

Claims 24 and 25 are both rejected on the same basis as claim 14 above. See the discussions regarding claims 1-2 for the details of this disclosure.

Claim 28 is rejected on the same basis as claim 1. See the discussion regarding claim 1 above for the details of this disclosure.

3. Claims 1-28 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 6,081,665 to Nilsen et al.

Referring to claim 1, Nilsen discloses a system that facilitates communicating between managed and unmanaged code as claimed. See Figures 1-6 & 94-95 and the corresponding portions of Nilsen's specification for this disclosure. In particular, Nilsen teaches "a system that facilitates communicating [method invocation calls] between managed and unmanaged code [byte-code or JIT-translated code methods], comprising:

a first component [byte-code or JIT-translated code segment or object] that is one of the managed and unmanaged code; and

a caller [See column 13, line 24 – column 18, line 44] associated with the first component, the caller invoking an object related to a second component [external byte-code method], the second component being one of the managed and unmanaged code, the caller including an in-lined stub [See column 15, lines 49-58] that facilitates communications between the objects" as claimed.

Referring to claim 2, Nilsen discloses the system for facilitating communication between managed and unmanaged code as claimed. See section 4.2 (columns 17-18) for the details of this disclosure. In particular, Nilsen teaches the system of claim 1, as above, "the in-lined stub including a call and return pair [See steps 7 – 8 of the method of section 4.2] to facilitate communication between the objects" as claimed.

Referring to claim 3, Nilsen discloses the system for facilitating communication between managed and unmanaged code as claimed. See column 40, lines 27-59 and

column 63, line 64 – column 64, line 5 of Nilsen's specification for this disclosure.

Nilsen teaches the system of claim 1, as above, "further comprising a stack marker [stack pointer(s)] that is hoisted [relocated or 'contiguously expanded'] from within a code loop associated with the caller ['a loop that repeatedly calls this procedure' (column 40, line 46)] to facilitate code execution performance during communications between the objects" as claimed.

Referring to claim 4, Nilsen discloses the system for facilitating communication between managed and unmanaged code as claimed. See section 4.2 (columns 17-18) of Nilsen's specification for the details of this disclosure. Nilsen's caller further comprises "transition code ['the monitor' (see steps 5 & 9 of the method of section 4.2)] to synchronize execution between the objects" as claimed. See section 6.2 for the details of the monitor.

Referring to claim 5, Nilsen discloses the system for facilitating communication between managed and unmanaged code as claimed. See sections 4.2 and 5.0 as well as Figure 42 and the corresponding portion of Nilsen's specification for this disclosure. Nilsen's caller further comprises one or more flags [preemption flags] to synchronize execution between the objects [See the method of section 4.2 and the discussion in section 5.0] as claimed.

Referring to claim 6, Nilsen discloses the system for facilitating communication between managed and unmanaged code as claimed. Again, see sections 4.2 and 5.0 as well as Figure 42 and the corresponding portion of Nilsen's specification for this disclosure. Nilsen teaches the system of claim 5, as above, "the one or more flags

utilized to synchronize code execution [See steps 6-11 of the method of section 4.2] with a garbage collector [See section 5.0]" as claimed.

Referring to claim 7, Nilsen discloses the system for facilitating communication between managed and unmanaged code as claimed. See sections 4.2, 5.0 and 5.5 as well as Figure 42 and the corresponding portion of Nilsen's specification for this disclosure. Nilsen teaches the system of claim 6, "the one or more flags utilized to suspend return operations from the unmanaged code [preempt using 'slow pointers' (See section 5.0 and column 24, line 59 et seq.)] until operations associated with the garbage collector have completed" as claimed.

Referring to claim 8, Nilsen discloses the system for facilitating communication between managed and unmanaged code as claimed. See section 4.2 for the details of this disclosure. In particular, Nilsen's caller further comprises security attribute code [JIT-translator and byte-code interpreter] to insulate the objects from at least one of code and security implementation details [See section 4.2] as claimed.

Referring to claims 9 and 10, Nilsen discloses the system for facilitating communication between managed and unmanaged code as claimed. See section 4.2 for the details of this disclosure. Nilsen's caller further comprises calling convention code [pvm()] to organize arguments and an execution stack [Step 7 (See sections 2.0 – 3.0)] and interpret return values from the unmanaged code [Step 8] as claimed.

Referring to claim 11, Nilsen discloses the system for facilitating communication between managed and unmanaged code as claimed. See section 4.2 for the details of

this disclosure. Nilsen's caller includes an in-lined marshalling code [pvm()] to transfer data between the objects [See sections 2.0 – 3.0] as claimed.

Referring to claims 12 and 13, Nilsen discloses the system for facilitating communication between managed and unmanaged code as claimed. See column 5, line 66 – column 6, line 6 and the corresponding portions of Nilsen's detailed description for the details of this disclosure. Nilsen's caller further comprises an extensibility component ['mechanism to translate traditional Java byte codes into the extended PERC byte codes' (column 6, lines 3-4)] including a function pointer that includes one or more functions as arguments [See sections 2.0 – 3.0] for facilitating generalized communication between the objects as claimed.

Claim 14 is rejected on the same basis as claim 2. See the discussions regarding claims 1 and 2 above for the details of this disclosure.

Claims 15-16 are rejected on the same basis as claims 3-4 respectively, in light of the basis for claim 14. See the discussions regarding claims 1-4 above for the details of this disclosure.

Claims 17-20 are rejected on the same basis as claims 6-9 respectively, in light of the basis for claim 14. See the discussions regarding claims 1-9 above for the details of this disclosure.

Claims 21-23 are rejected on the same basis as claims 11-13 respectively, in light of the basis for claim 14. See the discussions regarding claims 1-2 and 11-13 above for the details of this disclosure.

Claims 24 and 25 are rejected on the same basis as claim 14. See the discussions regarding claims 1-2 above for the details of this disclosure.

Claim 26 is rejected on the same basis as claim 15, in light of the basis for claim 25. See the discussions regarding claims 1-3 above for the details of this disclosure.

Claim 27 is rejected on the same basis as claims 1-3 above. See the discussions regarding claims 1-3 for the details of this disclosure.

Claim 28 is rejected on the same basis as claim 1. See the discussion regarding claim 1 above for the details of this disclosure.

Conclusion

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

U.S. Patent No. 5,491,800 to Goldsmith et al. is considered particularly pertinent to applicants' claimed invention.

The remaining prior art of record is considered pertinent to applicants' disclosure, and/or portions of applicants' claimed invention.

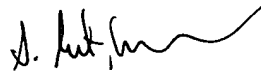
5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian Goddard whose telephone number is 703-305-7821. The examiner can normally be reached on M-F, 9 AM - 5 PM.

Art Unit: 2171

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Safet Metjahic can be reached on 703-308-1436. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.

bdg


SAFET METJAHIC
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100